

ORIGINAL



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BEFORE THE ARIZONA CORPORATION COMMISSION

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COMMISSIONERS

KRISTIN K. MAYES, Chairman

GARY PIERCE

PAUL NEWMAN

SANDRA D. KENNEDY

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2009 JUL -2 P 3:49

Arizona Corporation Commission

DOCKETED

JUL -2 2009

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[Signature]

IN THE MATTER OF THE APPLICATION OF
GLOBAL WATER – SANTA CRUZ WATER
COMPANY, FOR FINANCING APPROVAL IN
CONNECTION WITH THE AMERICAN
RECOVERY AND REINVESTMENT ACT OF
2009.

DOCKET NO.: W-20446A-09-0184

**Technical Comments
to Staff Report**

Global Water – Santa Cruz Water Company (“Santa Cruz”) provides these technical comments to the Staff Report dated June 26, 2009 in this docket. Santa Cruz is grateful for Staff’s quick action in this matter. Santa Cruz does not object to any of Staff’s recommendations or proposed conditions. However, Santa Cruz does note that some technical corrections to the Staff Report are necessary. The corrections are shown on the chart below:

	Staff Report	As corrected per WIFA
Principal Forgiveness	\$2,960,000	\$0
Expected Repayable Amount (after forgiveness)	\$740,000	\$3,700,000
Interest Rate	6.0%	2.0%

These amounts can be verified using the attached WIFA Chart entitled “Drinking Water Project Loans Subsidized Under ARRA” dated June 26, 2009. (Attached as Exhibit 1). Santa Cruz is the 30th project on the list. The column “Type of Financial Assistance” shows that subsidy is a reduced interest rate, rather than principal forgiveness. In addition, the interest rate column shows the

1 correct interest rate, 2.0%. The interest rate and lack of principal forgiveness are also shown on the
2 attached WIFA board resolution (Exhibit 2) and the attached WIFA Staff Analysis (Exhibit 3).

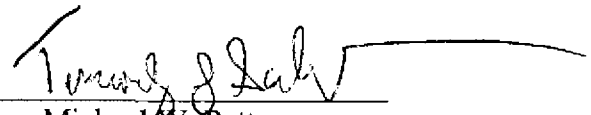
3 These corrections should have no impact on the financial soundness of the loan. As shown
4 on Staff Schedule JCM-1, Santa Cruz' current DSC and equity ratio are very strong. Staff
5 Schedule JCM-1, Column C assumes no principal forgiveness and a 6.0% interest rate, and shows a
6 pro-forma DSC as 17.39 (line 13), and a pro-forma equity ratio of 94.9% (line 24). Because the
7 loan will actually have a lower interest rate (2.0%) than shown in that scenario, the loan is clearly
8 consistent with sound financial practices. In addition, Exhibit 4 to Santa Cruz's application (which
9 used the correct numbers) shows the pro-forma DSC after the loan as 31.22.

10 In summary, using the corrected data, the loan remains financially sound. Accordingly,
11 Santa Cruz requests that the Commission issue an order approving the proposed loan using the
12 corrected data.

13 RESPECTFULLY SUBMITTED this 2nd day of July 2009

14
15 ROSHKA, DEWULF & PATTEN

16
17 By



18 Michael W. Patten
19 Timothy J. Sabo
20 One Arizona Center
21 400 East Van Buren Street, Suite 800
22 Phoenix, AZ 85004

23 Original and 13 copies of the foregoing
24 filed this 2nd day of July 2009 with:

25 Docket Control
26 ARIZONA CORPORATION COMMISSION
27 1200 West Washington Street
Phoenix, AZ 85007

ROSHA DEWULF & PATTEN, P.L.C.
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1 Copy of the foregoing hand-delivered/mailed
2 This 2nd day of July 2009 to:

3 Lyn Farmer, Esq.
4 Chief Administrative Law Judge
5 Hearing Division
6 ARIZONA CORPORATION COMMISSION
7 1200 West Washington Street
8 Phoenix, AZ 85007

9 Janice Alward, Esq.
10 Chief Counsel, Legal Division
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12 1200 West Washington Street
13 Phoenix, AZ 85007

14 Ernest G. Johnson, Esq.
15 Director, Utilities Division
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19 By Mary Spolito
20
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22
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24
25
26
27

EXHIBIT

"1"

Water Infrastructure Finance Authority
American Reinvestment and Recovery Act of 2009 (ARRA)

Drinking Water: Project Loans Subsidized Under ARRA
Prepared Date: 6/26/2009

Note: The projects in the list below will be required to submit a Project Finance Application and will be subject to a full loan analysis which includes verification of legal, managerial, financial and technical capacity. A loan will not be approved if the applicant is unable to meet all loan and ARRA requirements and is unable to meet the construction commencement date provided in the application. As a result of this analysis information and projects on this list may change.

I. Project Priority List - Projects within the ARRA capitalization grant amount: \$55,340,000.00 | * Anticipated twenty (20) year loan term.

Community Name	County	Project Description	Construction		Requested Amount	Type of Financial Assistance	ARRA Funded	WIFIA Funded	Adjusted Loan Amount	Combined Interest and Fee Rate (Standard or Reduced)	Green Project	Comments
			Commencement	Completion								
1. SoHi Domestic Water Improvement District	Mohave	Supplemental Water source Interconnect Construction	6/15/2009	6 Months	\$800,000.00	Loan/Principal Forgiveness	\$560,000.00	\$240,000.00	\$240,000.00	Standard	No	Binding Commitment
2. Holiday Hills DWID	Yavapai	Holiday Hills Improvement Project	6/15/2009	12 Months	\$200,000.00	Loan/Principal Forgiveness	\$140,000.00	\$60,000.00	\$60,000.00	Standard	No	Binding Commitment
3. Maricopa Domestic Water Improvement District	Pinal	Well No. 5 Arsenic Treatment System	6/17/2009	12 Months	\$928,430.00	Loan/Principal Forgiveness	\$649,901.00	\$278,529.00	\$278,529.00	Standard	No	Construction Started
4. Mt. Tipton Water Co. Inc.	Mohave	Well, Pump and Spring Project	1/28/2009	12 Months	\$140,000.00	Loan/Principal Forgiveness	\$126,000.00	\$14,000.00	\$14,000.00	Standard	Yes	Construction Started
5. Highland Pines Domestic Water Improvement District	Yavapai	Water Main Replacement Project	6/15/2009	6 Months	\$650,000.00	Loan/Principal Forgiveness	\$520,000.00	\$130,000.00	\$130,000.00	Standard	No	Construction Started
6. Pineview Water Company	Navajo	Gravity Flow System Project	6/17/2009	6 Months	\$141,988.18	Loan/Principal Forgiveness	\$113,590.54	\$28,398.18	\$28,398.18	Standard	No	Construction Started
7. Groom Creek Water Users Association	Yavapai	GCWUA Water System Improvements	5/30/2009	24 Months	\$1,600,000.00	Loan/Principal Forgiveness	\$800,000.00	\$800,000.00	\$800,000.00	Standard	No	Binding Commitment
8. Arizona American Water	Santa Cruz	Tubac Arsenic Removal	6/15/2009	12 Months	\$2,300,000.00	Loan/Principal Forgiveness	\$1,150,000.00	\$1,150,000.00	\$1,150,000.00	Standard	No	Construction Started
9. Taylor, Town of	Navajo	Security Fencing of Sweetwater & Hole In The Hill Well	7/23/2009	12 Months	\$110,000.00	Loan/Principal Forgiveness	\$44,000.00	\$66,000.00	\$66,000.00	Standard	No	Binding Commitment
10. Rim Trail Domestic Water Improvement District	Gila	Rim Trail Surface Water Filtration Plant Replacement and Water Plan	4/17/2009	12 Months	\$145,000.00	Loan/Principal Forgiveness	\$116,000.00	\$29,000.00	\$29,000.00	Standard	Yes	Construction Started
11. El Mirage, City of	Maricopa	Cottonwood Water Line Replacement	7/13/2009	12 Months	\$350,000.00	Loan/Principal Forgiveness	\$210,000.00	\$140,000.00	\$140,000.00	Standard	No	Binding Commitment
12. Willow Valley	Mohave	Meter Replacement Program	5/1/2009	6 Months	\$435,000.00	Loan/Principal	\$174,000.00	\$261,000.00	\$261,000.00	Standard	Yes	Construction

EXHIBIT

"2"

***ARRA Loan Resolution 2009-040-Santa Cruz Water
Company
Water Infrastructure Finance Authority of Arizona***

Section I: Resolution

WHEREAS, the Water Infrastructure Finance Authority of Arizona (the "*Authority*") has received from Santa Cruz Water Company (the "*Local Borrower*") a request for a loan (the "*Loan*"); and

WHEREAS, the Authority has determined that the Local Borrower has met the requirements of Arizona Revised Statutes §49-1201 et seq. (the "*Act*") and the rules promulgated thereunder (the "*Rules*"); and

WHEREAS, the terms and conditions under which a Loan will be made and the obligations of the Local Borrower will be set forth in a loan agreement or bond purchase agreement (the "*Loan Agreement*") to be executed by the Local Borrower and the Authority.

NOW, THEREFORE BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE AUTHORITY AS FOLLOWS:

The Executive Director of the Authority is hereby authorized and directed to execute a Loan Agreement with the Local Borrower to evidence a Loan in accordance with the Act, the Rules, the Local Borrower's applications to the Authority, and the Project Summary detailed in Section 2 of this Loan Resolution.

The Executive Director and other Authority officials, as appropriate, are authorized and directed to sign any document and take such actions as necessary and appropriate to consummate the transactions contemplated by this Resolution and the Loan Agreement and to ensure that the Local Borrower has completed all requirements of the Authority as detailed in Section 3, Section 4, and Section 5 of this Loan Resolution.

This Resolution shall take effect immediately and shall terminate one year from the date of Board Action.

Dated: May 27, 2009

By


Chairman

Attest:


Executive Director

ARRA Loan Resolution 2009-040- Santa Cruz Water Company

Water Infrastructure Finance Authority of Arizona

Section 2: Project Summary

DW 170-2009

<u>ARRA PL Rank</u>	<u>Master PL Rank</u>	<u>Funding Cycle</u>	<u>Population Served</u>	<u>Type of ARRA Assistance</u>	<u>Subsidy Rate</u>
38, 39	147, 182	DW 2009	50,334	Reduced CIFR 2.00%	85%

DW170-2009 – Solar Project

A 500 kW solar project will be constructed to supplement power to the facility. The project is designed, permitted and ready for construction. The project will bring considerable power savings to the system's largest facility. It is estimated that the new panels will supply 25% of the facilities power.

DW172-2009 – SCADA System

Implementing a SCADA platform will optimize utility operations by finding and managing efficiencies, increasing the level of customer service and eliminating unnecessary expenses. Instant access to information provides the ability to make timely decisions and drive recurring costs (power, consumables) out of utility operations. Automated compliance and reporting will streamline procedures, ensure compliance and reduce costs. The project will create high tech work required for programming and implementation. The project is estimated to provide 15 months of work for engineers, programmers and construction crews.

The Santa Cruz Water Company has an extensive SCADA system that allows operators to control certain equipment throughout the distribution system. However, Santa Cruz lacks all the necessary instruments to gain the economies and efficiencies from such a system. This project is designed to instrument the Santa Cruz Water Company's infrastructure and complete the SCADA programming to reduced drive time and conserve water resources. Additional major components of the work is integrating a water distribution model with SCADA and developing and programming the expert control systems to drive water conservation.

***ARRA Loan Resolution 2009-040-Santa Cruz Water
Company
Water Infrastructure Finance Authority of Arizona***

None

None

Section 3: Financial Assistance Terms & Conditions (Section 7.1 of Due Diligence)

Financial Assistance Amount: \$ 3,700,000

Primary Repayment Source: System Revenues

Secondary Repayment Source: None

Loan Term: 20 years with ARRA assigned fixed 2.00% CIFR

Frequency of Repayment: Monthly

Loan Structure: Non-Governmental-ARRA with Reduced CIFR

Debt Service Reserve Fund Requirements: WIFA Held

Repair and Replacement Fund Requirements: Local - Separate Account

Requirements Prior to Loan Execution:

Require Legal Opinion: Yes

Other: Yes

ACC confirmed debt authorization for \$3,700,000.

Requirements Prior to Construction: No Requirement

Requirement During Construction: No Requirement

Requirements Prior to Final Disbursements: No Requirement

Loan Category: Not Qualified

ARRA Loan Resolution 2009-040-Santa Cruz Water Company

Water Infrastructure Finance Authority of Arizona

Policy Exceptions: None

Section 4: Technical Terms & Conditions (Section 7.2 of Due Diligence)

Observation Schedule: A

Withholding Percentage: 5%

Requirements Prior to Loan Execution: No Requirement

Requirements Prior to Construction:

Prior Review and Approval of Construction Bids: Yes

Require Construction Signs: Yes

The Local Borrower shall erect a construction sign displaying information on the Project and the funding sources. The Authority shall provide specifications for such construction signs. Construction sign must include Recovery Act Logo

Other: Yes

Notify WIFA when construction begins.

Requirements During Construction:

Prior Review of Changes in Project Scope: Yes

The Local Borrower shall submit to the Authority, for review and approval prior to execution, any change to the plans and specifications, construction contracts, Eligible Project Costs, or any other change which will effect the performance standards or purpose of the Project.

Other: No Requirement

Requirements Prior to Final Disbursements:

Require Plan of Operation: No Requirement

Require Final Approval: Yes

Other: No Requirement

Policy Exceptions: None

***ARRA Loan Resolution 2009-040-Santa Cruz Water
Company***
Water Infrastructure Finance Authority of Arizona

Section 5: Additional Notice & Reporting Requirements (Section 7.3 of Due Diligence)

WIFA to generate Press Release: Yes

Other: Yes - ARRA Reporting Requirements

EXHIBIT

"3"

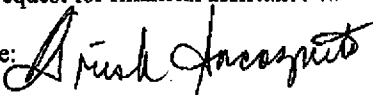
American Recovery and Reinvestment Act

Santa Cruz Water Company DW 170 & 172-2009


**Board Action:
May 27, 2009**

Project Status Committee Member Certifications:

I have reviewed the application and financial documentation submitted by the applicant and have determined that the request for financial assistance satisfies the requirements for Board consideration.


Signature:  Title: Sr. Loan Officer Date: 5/20/09

I have reviewed the application and technical documentation submitted by the applicant and have determined that the request for financial assistance satisfies the requirements for Board consideration.

Signature:  Title: Environmental Program Specialist Date: 5/20/09

Executive Director Certification:

I have reviewed the staff analysis of the application and related documentation and have determined that the request for financial assistance satisfies the requirements for Board consideration

Signature:  Date: 5/20/09

Section 1: Applicant Information

Santa Cruz Water Company

Cindy Liles, Chief Operation Officer

21410 North 19th Avenue Suite, Suite 201 Phoenix, AZ 85027

Type of Applicant: ☐ Governmental ☒ Non-Governmental

Type of Project: ☒ Drinking Water ☐ Wastewater

System Identification #: PWS #11-131

<u>ARRA PL</u> <u>Rank</u>	<u>Master</u> <u>PL Rank</u>	<u>Funding</u> <u>Cycle</u>	<u>Population</u> <u>Served</u>	<u>Type of ARRA</u> <u>Assistance</u>	<u>Subsidy</u> <u>Rate</u>
38, 39	147, 182	DW 2009	50,334	Reduced CIFR 2.00%	85%

None

Section 2: Project Information

Santa Cruz Water Company serves a portion of the City of Maricopa as well as surrounding areas. Maricopa is a city in Pinal County, thirty miles south of Phoenix in the Gila River Valley. As of 2007, its population was estimated to be 37,863, an increase of 36,823 over the 2000 census figure of 1,040. This makes it the second largest city in the county and Arizona's nineteenth largest city. Maricopa's annexation plans during the next decade are likely to result in major growth in both population and area. The city was officially incorporated on October 15, 2003, becoming the 88th incorporated city in Arizona.

Santa Cruz Water Company, Public Water System No. 11-131, has a 1,377,721 acre service area. It currently serves a population of approximately 50,334 and is projecting a population of 141,504 by the year 2019. It is currently served by 5 active groundwater wells with a capacity of 8,800 gpm, five storage tanks with a capacity of 6,500,000 gallons, 25 booster pumps and 4 pressure tanks. As of March 31, 2009, Santa Cruz Water Company serves approximately 16,778 customers. Santa Cruz Water Company also serves recycled water to lakes, golf courses, home owner associations and open space.

The current system has an average daily demand of 4.2 MGD, and an average day demand capacity of 6.5 MGD.

Type & Number of Connections

Type of User	Current	2007	2006	2005	2004
Residential	16,458	15,431	12,497	9,514	4,036
Commercial	93	74	69	35	4
Lake Golf Course	2	2	2	2	2
Irrigation	192	156	134	82	32
Construction	33	59	47	35	31
Total	16,778	15,722	12,749	9,668	4,105

DW170-2009 – Solar Project

A 3.0 MGD water reclamation facility which provides recycled water for irrigation purposes is currently 100% powered from the electrical grid. This is a great cost to the company.

DW172-2009 – SCADA System

A large portion of the facilities within the system do not have SCADA capability. Significant manpower is utilized performing site visits to log conditions as well as responding to alarms at remote sites. Furthermore, optimizing operation is difficult without the ability to monitor dosages, pressures, tank levels, etc.

DW170-2009 – Solar Project

A 500 kW solar project will be constructed to supplement power to the facility. The project is designed, permitted and ready for construction. The project will bring considerable power savings to the system's largest facility. It is estimated that the new panels will supply 25% of the facilities power.

DW172-2009 – SCADA System

Implementing a SCADA platform will optimize utility operations by finding and managing efficiencies, increasing the level of customer service and eliminating unnecessary expenses. Instant access to information provides the ability to make timely decisions and drive recurring costs (power, consumables) out of utility operations. Automated compliance and reporting will streamline procedures, ensure compliance and reduce costs. The project will create high tech work required for programming and implementation. The project is estimated to provide 15 months of work for engineers, programmers and construction crews.

The Santa Cruz Water Company has an extensive SCADA system that allows operators to control certain equipment throughout the distribution system. However, Santa Cruz lacks all the necessary instruments to gain the economies and efficiencies from such a system. This project is designed to instrument the Santa Cruz Water Company's infrastructure and complete the SCADA programming to reduced drive time and conserve water resources. Additional major components of the work is integrating a water distribution model with SCADA and developing and programming the expert control systems to drive water conservation.

DW 170-2009 IS A CATEGORICALLY QUALIFIED GREEN PROJECT

Energy or Water Efficiency Issues at Existing Facility Include:

This 3 MGD water reclamation facility is currently 100% powered via the electrical grid.

Green Project Elements Include:

A 500 kW solar array will supplement power to the facility and will be capable of supplying 25% of the facilities power demand.

DW 170-2009

Green Category	Estimated Energy Cost Savings	Estimated Water Cost Savings	% of Total Green	SS Green Project Costs
Efficiency	25% total power demand		100%	\$2,500,000

DW 172-2009 IS A BUSINESS CASE GREEN PROJECT

Energy or Water Efficiency Issues at Existing Facility Include:

Santa Cruz Water Company has identified that current operations are energy intensive, experiencing water losses and inefficiencies in pump operations, maintenance of adequate pressures, and power consumption.

Green Project Elements Include:

Full deployment of SCADA and re-instrumentation will allow Santa Cruz Water Company to achieve economies and efficiencies through an Advanced Pressure Management Plan which will minimize the pressure in the water distribution system during off-peak hours. The benefits are

two-fold, including reduction in energy required to maintain pressure during low use as well as reducing water lost due to unmetered leakage in the distribution system. Pump control improvements will reduce simultaneous equipment starts and pressure fluctuations, reducing power consumption (kWh) and demand, as well as reduce equipment wear. Overall, the project will assist with the preventative care of the utility by reducing power consumption (including operator travel and fuel), augmenting more efficient pumping capacities, shaving peak loading and generating improved water conservation efforts.

DW 172-2009

Green Category	Estimated Energy Cost Savings	Estimated Water Cost Savings	% of Total Green	SS Green Project Costs
Efficiency	20%		100%	\$1,000,000

Uses by Budget Item	WIFA DW 170-2009 Funding	WIFA DW 172-2009 Funding	Local Funding	Other:	Total By Use
Planning	\$15,000	\$100,000			\$115,000
Design & Engineering	\$70,000	\$75,000			\$145,000
Legal/Debt Authorization					
Financial Advisor					
Land/System Acquisition					
Equipment/Materials	\$1,800,000	\$450,000			\$2,250,000
Construction/Installation/Improvement	\$350,000	\$400,000			\$750,000
Inspection & Construction Management	\$175,000	\$150,000			\$325,000
Project Officer	\$75,000	\$20,000			\$95,000
Administration	\$15,000	\$5,000			\$20,000
Staff Training					
Capitalized Interest					
Other					
Total by Source	2,500,000	\$1,200,000			
Total for Project					\$3,700,000

Engineering Costs Reasonable? ☒ Yes ☐ No

Construction Costs Reasonable? ☒ Yes ☐ No

Estimate of the number of jobs created and jobs retained in the United States and outlying areas: 29 (DW 170), 12 (DW 172) [The number is expressed as "full-time equivalent" (FTE)]

Types of jobs created and jobs retained in the United States and outlying areas:

Types of Jobs – DW 170-2009	Number of Jobs	Duration in Months
Engineering Design	2	2
Grading	1	1
Equipment Fabrication	4	2
Installation of Support Systems	8	3
Solar Power Installation	8	2
Electrical Installation	4	2
Administration	1	6
Maintenance	1	Perpetuity
TOTAL JOBS	29	

Section 3: Legal Capability

Congressional District (s) 7
Legislative District (s) 23

Type of Applicant: Association/Cooperative X Corporation
 Limited Liability Corporation Political Subdivision
 Sole Proprietor Other

Significant Findings in Legal Structure Review? X No Yes

Debt Authorized Yes X No, Scheduled: Pending with ACC N/A

Authorized Amount: \$ To Be Determined

On April 17, 2009, Santa Cruz Water Co. filed a financing application with the Arizona Corporation Commission requesting approval to incur long-term indebtedness from WIFA in the amount of \$3,700,000 for CW 170 & 172-2009.

Significant Findings in Debt Authorization Review? No X Yes

Section 4: Managerial Capability

Compliance History: ☒ Significant Compliance ☐ Significant *Non*-Compliance

Santa Cruz Water Company is in compliance with the Arizona Department of Environmental Quality, the Arizona Corporation Commission and the Arizona Department of Water Resources.

Recent Inspection: ☒ Significant Compliance ☐ Significant *Non*-Compliance

Are terms of officials staggered? ☐ Yes ☒ No

Are officials experienced in managing similar organizations? ☒ Yes ☐ No

Trevor T. Hill

Mr. Hill is cofounder and serves as President and Chief Executive Officer and a member of the Board of Directors of Global Water Resources. Prior to cofounding Global Water in 2003, he cofounded Algonquin Water Resources of America, a division of the Algonquin Power Income Fund, where he served as Director of Operations from 2000 to 2003. In 1994, Mr. Hill cofounded Hill, Murray & Associates, a design/build firm specializing in the construction and operation of water reclamation facilities in British Columbia and the Canadian Arctic. He retired from the Canadian Navy in 1994, after serving as an engineering officer and receiving the Gulf Kuwait Medal for his service in the 1991 Gulf War. Mr. Hill graduated from Royal Roads Military College with a degree in Mechanical Engineering in 1987. He attended the Royal Naval Engineering College in Plymouth, England and completed his post graduate studies in 1988.

Cindy M. Liles

Ms. Liles serves as Senior Vice President and Chief Operating Officer of Global Water Resources. She joined Global in 2004 upon the Company's first acquisitions, Santa Cruz Water Company and Palo Verde Utilities Company, both wholly owned subsidiaries. From 2002 until joining the Company, Ms. Liles served as the Chief Financial Officer and General Manager of those utilities. She is a certified public accountant with over 20 years of accounting and management experience with public companies, including Holiday Inns Worldwide and MidAmerica Apartment Communities, Inc. Ms. Liles graduated from Delta State University with a degree in accounting.

Are officials experienced in managing similar projects? ☒ Yes ☐ No

Is there a history of (or pending) recalls or removals of officials? ☒ No ☐ Yes

By-laws, rate ordinances, and connection ordinances in place? ☒ Yes ☐ No

The Company is regulated by the Arizona Corporation Commission.

Individual responsible for day-to-day management of the system:

☒ System Manager ☐ Elected Official ☐ Other:

Day-to-day manager experienced in managing similar organizations? ☒ Yes ☐ No

Day-to-day manager experienced in managing similar projects? ☒ Yes ☐ No

Significant management impacts as the result of the proposed project? ☒ No ☐ Yes

Pending Litigation or Claims? ☒ No ☐ Yes

Management History: ☒ Stable ☐ Unstable

Management Structure: ☒ Satisfactory ☐ Unsatisfactory

Significant Findings in Managerial Review? ☒ No ☐ Yes

Section 5: Technical Capability

Recent Inspection: ☒ Significant Compliance ☐ Significant *Non*-Compliance

Proposed project technology appropriate? ☒ Yes ☐ No

Operators certified at appropriate level? ☒ Yes ☐ No

	Position	Operator Grade	Total Years Experience	Time in Position
Tammy Maher	Senior Utility Operator	Grade 2C Wastewater Collection System Operator Grade 3D Water Distribution System Operator Grade 2T Water Treatment Plant Operator Grade 4W Wastewater Treatment Plant Operator	15 years	2 years

Operators qualified to operate project technology? ☒ Yes ☐ No

Significant operating impacts due to project technology? ☒ No ☐ Yes

Project Officer hired to oversee Project Development? ☐ Yes ☒ No

Significant findings in Technical Review? ☒ No ☐ Yes

Water Supply adequate for Term of Loan Agreement? ☒ Yes ☐ No

Obtained Certificate of Assured Water Supply from ADWR? ☒ Yes ☐ No

Significant impact due to water rights adjudication? ☒ No ☐ Yes

Significant findings in Water Supply Review? ☒ No ☐ Yes

Project Development Milestones:

DW 170-2009 – Solar Project

Event	Scheduled Completion Date
Plan, Design & Specifications Submitted	4/01/2009
Approval to Construct	4/01/2009
Advertisement for Bid	4/15/2009
Construction Commencement	5/15/2009
Construction Completion	11/15/2009
Initiate Operation	12/15/2009

The Solar Project has been designed and is in the final stages of receiving a building permit from the City of Maricopa. The solar panel provider can have the panels on-site about 3 weeks from the date SCWC issues the purchase order. SCWC has also confirmed that the panels for this project will be provided from their U.S. factory. The solar support structures are also manufactured in the U.S. and can be onsite four weeks from purchase order.

DW 172-2009 – SCADA System

Event	Scheduled Completion Date
Plan, Design & Specifications Submitted	Complete
Approval to Construct	No Permit Required
Advertisement for Bid	Project Awarded
Construction Commencement	6/01/2009
Construction Completion	7/01/2010
Initiate Operation	8/01/2010

Global Water Management, in preparation of this project, has detailed all instrumentation deficiencies throughout the Santa Cruz Water Company; developed process flow diagrams for all facilities; and developed the instrumentation specifications necessary to complete the project. In addition, the master PLC and radio communication network has already been installed to ensure the project is successful.

- ☐ Not Applicable – For Planning or Design Financial assistance Only
☒ Categorical Exemption
☐ Environmental Assessment – Finding of No Significant
☐ Environmental Assessment – Environmental Impact Statement

Significant Findings in Consultant Capacity Review? ☒ No ☐ Yes

Global Water Management will handle the DW170-2009 Solar Project.
Conestoga-Rovers & Associates is the engineering firm selected for the DW 172 – 2009 SCADA System.

Section 6: Financial Capability *(see Attachments C & D for detail)*

Credit Rating: N/A: ☒ Fitch: _____ Moody's: _____ S&P: _____

Historical Performance & Trend Analysis (See Attachment C for Greater Detail):

Santa Cruz Water Co. currently has no long-term debt. To perform the historical analysis of Santa Cruz Water Company, WIFA staff utilized annual reports filed with the ACC for years 2004 through 2008. Each year resulted in more than sufficient debt service coverage, with the lowest coverage of 91.58 resulting in 2008.

Projected Performance (See Attachment D for Greater Detail):

WIFA staff has incorporated the 2009 Santa Cruz budgeted project revenues and expenses and conservatively projected revenues and expenditures to grow by 3% and 5% respectively each year from 2010 through 2013. Projections along with the proposed WIFA debt (with ARRA reduced CIFR of 2%) have resulted in positive Debt Service Coverage Ratio's (DCR) of 23.4 in 2009 increasing to a high of 25.2 in 2013. SCWC also exceeds the required DCR on the total Financial Assistance amount (CIFR of 5.25%) with a DCR of 17.5 to 18.8.

Section 7: WIFA Staff Recommendations

Financial Assistance Amount: \$3,700,000

Primary Repayment Source: Water System Revenues

Secondary Repayment Source: None

Loan Term: 20 Years with ARRA assigned fixed 2.00% CIFR

Frequency of Repayment:

☐ Semi-Annual ☒ Monthly ☐ Other:

Loan Structure: Non-Governmental – ARRA With Reduced CIFR

Debt Service Reserve Fund Requirements:

☒ WIFA ☐ Local - Separate ☐ Local – Not Separate ☐ Surety ☐ None

Repair and Replacement Fund Requirements:

☒ Local - Separate ☐ Local – Not Separate ☐ None

Requirements Prior to Loan Execution: ACC confirmed debt authorization for \$3,700,000.

Require Legal Opinion: ☒ Yes ☐ No

Other:

Requirements Prior to Construction: None

Requirement During Construction: None

Requirements Prior to Final Disbursements: None

Loan Category:

☐ Qualified, Pledged ☐ Qualified, Not Pledged ☒ Not Qualified

Policy Exceptions: None

Observation Schedule:

☒ Schedule A ☐ Schedule B ☐ Schedule C

Withholding Percentage:

☐ 15% ☐ 10% ☒ 5%

Requirements Prior to Loan Execution: None

Requirements Prior to Construction: Notify WIFA when construction begins.

Prior Review and Approval of Construction Bids: ☒ Yes ☐ No

Require Construction Signs: ☒ Yes ☐ No

(Construction sign must include Recovery Act Logo - to be provided to borrower)

Other:

Requirement During Construction:

Prior Review of Changes in Project Scope: ☐ No ☒ Yes

Other:

Requirements Prior to Final Disbursements:

Require Plan of Operation: ☒ No ☐ Yes

Require Final Approval: ☐ No ☒ Yes

Other:

Policy Exceptions: None

WIFA to generate Press Release: ☒ Yes ☐ No

Other: Yes - ARRA Reporting Requirements

Maricopa

Community Profile

Prepared by the ARIZONA DEPARTMENT OF COMMERCE

Maricopa is 16 miles south of Interstate 10 in western Pinal County. Over the last 160 years, its location has changed three times. Its first site was Maricopa Wells, about 10 miles northwest, a trading center for stagecoaches passing through the Southwest. The Civil War ended the mail lines and a new railroad a few miles south was the death knell for Maricopa Wells. Maricopaville, 3.6 miles west, was born when a junction was needed to connect the Southern Pacific Railroad linking Yuma and Tucson with a branch line to Phoenix. When Tempe wanted to be on the railroad line in 1887, Maricopaville was moved to Maricopa's current location.

Basic Information

Founded: 1887
Incorporated: 2003
Elevation: 1,178
Located In: Pinal County
Nearby Highways: HWYS I-10
Enterprise Zone available

Distance to Major Cities:
Phoenix: 15 miles
Tucson: 89 miles

Population

	1990	2000	2007
Maricopa	N/A	1,482	32,167
Pinal County	116,397	179,727	327,570
Arizona	3,665,228	6,130,632	6,500,194

Sources: Arizona Department of Commerce and US Census Bureau
Data unavailable for 1990. Official Census 2000 count after Maricopa incorporation date of 10/15/03. (orig: 1,040 for Maricopa CDP).

Principal Economic Activities

Maricopa is quickly growing as South Mountain residential developments trim over into its rich agricultural valley. Although Maricopa's businesses and industries have traditionally been geared toward farming and ranching, its economic base has been diversifying through companies such as Volkswagen and Nissan, both of which have proving grounds in the area. Harrah's Ak-Chin Casino also contributes to the economy. The largest industries are agriculture, retail and manufacturing.

County Employment	2007
Government	18,876
Trade, Transportation, and Utilities	8,900
Leisure and Hospitality	4,725
Educational and Health Services	4,175
Mining and Construction	4,125
Manufacturing	3,900
Financial Activities	3,660
Professional and Business Services	3,650
Other Services	1,825
Information	1,500

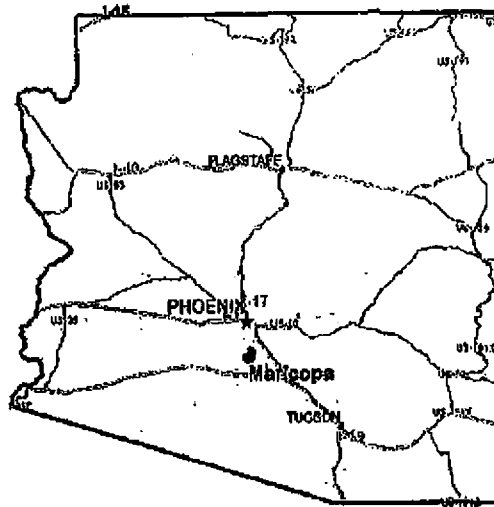
Sources: Arizona Department of Commerce
Figures are organized under the North American Industrial Classification System (NAICS).

Private Employers

Arizona Castings Inc.
Bashas
Fry's Food & Drug Store
Mobile Mini
Pinal Energy
Yulex Corporation

Public Employers

City of Maricopa
Maricopa Unified School District



Labor Force Data

	1990	2000	2007
Civilian Labor Force	0	515	688
Unemployed	0	27	37
Unemployment Rate	0.0%	5.2%	5.4%

Source: Arizona Department of Commerce
U.S. Census data unavailable for 1990.

Growth Indicators

	1990	2000	2007
New Bldg. Permits	0	0	2,408
Taxable Sales (\$)	0	0	1.2 billion
Net Assessed Value (\$)	5.3 million	7.7 million	220.2 million

Sources: Arizona State Univ., AZ Dept. of Revenue, AZ Tax Research Assoc.
NOTE: Data unavailable for 1990 and 2000; 2007 New building permit data incomplete; One or more months not available.

Scenic Attractions

The Estrella Mountains offer desert picnic and rock-hounding areas and petroglyphs. The Estrella Sailport offers introductory and aerobatic flights and barnstorming rides. North is Firebird International Raceway, featuring three road racing courses, a drag strip, and a 120-acre private water-sport lake where major spectator motor sports are held. The Him-Dak Museum, located in the Ak-Chin Indian Community, features Native American artifacts. Nearby Francisco Grande Resort has an 18-hole golf course. Other activities include horseback riding, quail/dove hunting, dogging and cotton gin tours. Annual events include an antique car show, Stanfield Friendship Days Parade, Maricopa Stagecoach Days & Parade, fireworks and watermelon bust, and Maricopa Agricultural Center Bar-B-Que and Air Show.

Maricopa

Community Profile

Community Facilities

Interstate 8 (18 miles south) and I-10 (16 miles north) are accessible via State Route 347 which runs through downtown Maricopa. Southern Pacific Railroad, a stop along the route of the Sunset Limited, is currently pending approval by AMTRAK. Greyhound Bus Service is available out of Casa Grande.

Educational Institutions

	Public	Private
Elementary	Y	N
Middle School	Y	N
High School	Y	N

Financial

Government

Fire Department: Fire Department Maricopa
Law Enforcement: Pinal County Sheriff-City of Maricopa Police

Airports

Phoenix Sky Harbor International Airport, 28 miles north, or Casa Grande Municipal Airport, 17 miles south

Medical

Sun Life Family Health Center, Maricopa Urgent Care Ctr. & nearby Casa Grande Regional Medical Ctr.

Hotel & Lodging

Number of Rooms: n/a
Meeting Rooms: n/a
Capacity of Largest Facility: n/a

Industrial Properties

Approximately 9 miles southeast of Maricopa lies 640 acres of land zoned for heavy industrial use. All utilities are available to the area (except sewer), and lot prices start at about 50 cents per square foot. This combination has attracted a variety of industrial companies, including fiberglass mold making, architectural Styrofoam cutting, and fiberglass race and car trailer manufacturing businesses.

Utilities

Electricity	Arizona Public Service (Maricopa)	520.421.8400
Electricity	Electrical District No. 3	520.424.9021
Natural Gas	Southwest Gas Corp. (statewide)	800.766.8722
Telephone	Maricopa Broadband	520.588.0778
Telephone	Orbital	800.247.1588
Telephone	Qwest (statewide)	800.244.1111
Water	Global Water Company	520.888.4452
Water	Maricopa Domestic Water Dist.	520.588.2238

Cable Providers: Y

Digital Switching Station: N
Internet Service Provider: Y

Cable Internet Service Provider: Y
Fiber Optics: N

Taxes

Property Tax Rate	1999	2000	2007
Elementary/High Schools	5.38	9.74	7.22
City/Fire District	0.49	1.33	3.76
Countywide	7.46	7.63	6.30
Totals	13.33	18.70	17.28

Source: Arizona Tax Research Association

Note: Tax rate per \$100 assessed valuation

NOTE: School district participates in the Central Arizona Valley Institute of Technology (CAVIT).

Sales Tax

	2007
City/Town	2.00%
County	1.10%
State	5.80%

Source: League of Arizona Cities & Towns, Arizona Dept. of Revenue

Weather

	Avg. Low (°F)	Avg. High (°F)	Precip. (in.)
January	34.8	66.8	0.8
February	38.2	71.2	0.9
March	42.8	77.0	0.9
April	48.6	86.0	0.3
May	57.4	95.4	0.1
June	68.6	106.0	0.2
July	76.1	107.3	0.3
August	74.5	104.9	1.0
September	68.6	89.9	0.7
October	63.0	88.8	0.6
November	40.7	75.2	0.6
December	34.0	66.0	1.0
Yearly Avg.	52.7	88.9	7.7

Source: Western Regional Climate Center

Western Regional Climate Center, wrc@ari.edu. Period of record 1960-2005. Average Total Snowfall 0.0".

This profile was prepared by the Arizona Department of Commerce Communications Division in cooperation with local sources.

For further information contact:

Maricopa Chamber of Commerce
P.O. Box 1203/45138 West Garvey Drive, Unit B
Maricopa, AZ 85239
Phone: 520-588-9573
Website: www.maricopachamber.com

Central Arizona Regional Economic Development Foundation
640 N. Camino Mercado, Suite 2
Casa Grande, AZ 85222
Phone: 520.836.8663, Fax: 520.836.4898
Email: info@caranf.org
Website: www.caranf.org



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OF COMMERCE

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Prepared on 10/20/2008

Fiscal Impact of WIFA & ARRA Financial Assistance

Terms and Conditions

Loan Amount.....
Term.....

ARRA Assigned Combined Interest & Fee Rate.....

Year Principal Repayments Begin

Coverage Requirement.....

Debt Service Reserve Requirement.....

of Years Debt Service Reserve Funded.....

\$226,279.86

5

Annual Level Debt Service Payments to WIFA.....

\$226,279.86

Annual Debt Service Reserve Deposit

Prior to Debt Service Reserve Requirement.....

45,255.97

Annual Replacement Fund Deposit -- Held Locally

After Debt Service Reserve Requirement.....

45,255.97

Annual Fiscal Impact

Year	Annual Debt Service	Reserve Fund Deposit	Replacement Fund Deposit	Total Annual Fiscal Impact
1	226,279.86	45,255.97	0.00	271,535.83
2	226,279.86	45,255.97	0.00	271,535.83
3	226,279.86	45,255.97	0.00	271,535.83
4	226,279.86	45,255.97	0.00	271,535.83
5	226,279.86	45,255.97	0.00	271,535.83
6	226,279.86	0.00	45,255.97	271,535.83
7	226,279.86	0.00	45,255.97	271,535.83
8	226,279.86	0.00	45,255.97	271,535.83
9	226,279.86	0.00	45,255.97	271,535.83
10	226,279.86	0.00	45,255.97	271,535.83
11	226,279.86	0.00	45,255.97	271,535.83
12	226,279.86	0.00	45,255.97	271,535.83
13	226,279.86	0.00	45,255.97	271,535.83
14	226,279.86	0.00	45,255.97	271,535.83
15	226,279.86	0.00	45,255.97	271,535.83
16	226,279.86	0.00	45,255.97	271,535.83
17	226,279.86	0.00	45,255.97	271,535.83
18	226,279.86	0.00	45,255.97	271,535.83
19	226,279.86	0.00	45,255.97	271,535.83
20	226,279.86	0.00	45,255.97	271,535.83
	\$4,525,597.14	\$226,279.86	\$678,839.57	\$5,430,716.57

ATTACHMENT C – HISTORICAL PERFORMANCE & TREND ANALYSIS

Santa Cruz Water Co.

Historical Revenues and Expenditures For Fiscal Years Ending December 31

	Change				Change				Change				
	2004	2005	\$	%	2006	\$	%	2007	\$	%	2008	\$	%
Revenues													
Operations	2,038,298	5,107,069	3,068,771	150.57%	7,902,228	2,795,159	54.73%	9,021,468	1,118,240	14.19%	9,453,440	432,972	4.80%
Interest Income	522	6,519	5,997	1148.87%	0	(6,519)	-100.00%	238	238	0.00%	0	(738)	-100.00%
Other	1,936	0	(1,936)	-100.00%	0	0	0.00%	4,126	4,126	0.00%	0	(4,126)	-100.00%
Total Revenues	2,040,756	5,113,588	3,072,832	150.57%	7,902,228	2,788,640	54.53%	9,024,832	1,122,604	14.21%	9,453,440	428,608	4.75%
Operating Expenses													
Operations (Less Depreciation)	554,064	1,147,846	593,782	107.17%	1,710,507	562,661	40.02%	2,219,156	508,649	22.74%	2,390,579	171,423	7.72%
Maintenance & Capital	21,541	31,321	9,780	45.40%	37,324	6,003	19.17%	72,639	35,535	94.07%	19,360	(53,279)	-73.83%
Taxes	20,325	75,028	54,703	269.14%	125,930	50,922	67.87%	250,801	124,851	99.13%	1,354,553	1,103,752	440.03%
Other	0	0	0	0.00%	13,631	13,631	0.00%	0	(13,631)	-100.00%	0	0	0.00%
Total Operating Expenses	595,930	1,254,195	658,265	110.40%	1,889,432	655,257	50.69%	2,542,616	653,184	34.57%	3,764,492	1,221,876	48.00%
Net Revenues before Debt Service	1,444,826	3,859,393	2,414,567	167.12%	6,012,796	2,133,403	55.80%	6,482,216	469,420	7.81%	5,688,948	(793,268)	-12.24%
Debt Service													
Principal	0	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
Interest	0	0	0	0.00%	22,364	22,364	0.00%	44,096	21,732	97.17%	62,121	18,025	40.88%
Total Debt Service	0	0	0	0.00%	22,364	22,364	0.00%	44,096	21,732	97.17%	62,121	18,025	40.88%
Revenues after Debt Service	1,444,826	3,859,393	2,414,567	167.12%	5,990,432	2,131,039	55.72%	6,438,120	447,088	7.47%	5,626,827	(811,293)	-12.00%
Coverage	n/a	n/a			268.86			147.00			91.38		

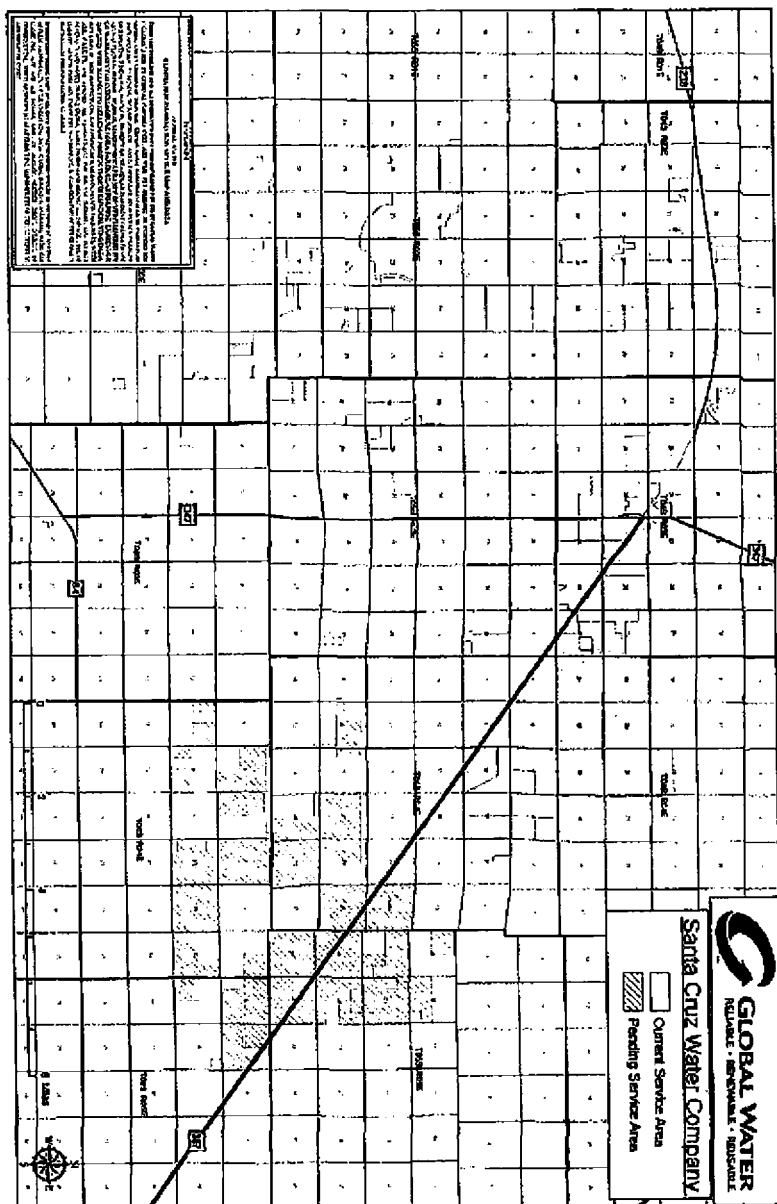
ATTACHMENT D – PROJECTED PERFORMANCE

Santa Cruz Water Co.

Projected Revenues and Expenditures For Fiscal Years Ending December 31

	Change		Change		Change		Change		Change	
	2009	\$ %	2010	\$ %	2011	\$ %	2012	\$ %	2013	\$ %
Revenues										
Operations	8,191,808	(1,261,652)	8,437,562	265,754	8,690,689	253,127	8,951,410	260,721	9,219,952	268,542
Interest Income	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Other	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Total Revenues	8,191,808	(1,261,652)	8,437,562	265,754	8,690,689	253,127	8,951,410	260,721	9,219,952	268,542
Operating Expenses										
Operations (Less Depreciation)	2,209,147	(91,432)	2,414,104	114,957	2,534,810	120,705	2,661,550	126,740	2,794,628	133,078
Maintenance	18,200	(1,160)	19,110	910	20,066	956	21,069	1,003	22,122	1,053
Taxes	559,633	(794,920)	587,615	27,982	616,995	29,381	647,845	30,850	680,237	32,392
Other	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Total Operating Expenses	2,876,980	(687,512)	3,120,829	143,849	3,171,870	151,041	3,330,464	158,594	3,486,987	166,523
Net Revenues before Debt Service	5,314,828	(134,120)	5,416,733	101,905	5,518,819	102,085	5,620,946	102,177	5,712,965	102,019
Debt Service										
Existing Debt (P & I)	0		0		0		0		0	
WTFA Debt Service	226,280		226,280		226,280		226,280		226,280	
Total Debt Service	226,280		226,280		226,280		226,280		226,280	
Revenues after Debt Service	5,088,548		5,190,453		5,292,539		5,394,666		5,486,685	
Coverage	23.49		23.94		24.39		24.84		25.29	

ATTACHMENT E - SCWC SERVICE AREA MAP



Santa Cruz Water Company DW 172-2009 Full SCADA Deployment & Re-instrumentation Cost Estimate with Breakdowns	
Uses by Budget Item	WIFA Funding
Planning	
Evaluation of Needed Components	\$30,000.00
Due Diligence of Equipment	\$40,000.00
Radio & Communications Planning	\$30,000.00
Design & Engineering	
Electrical Design	\$25,000.00
Development of SCADA Standards	\$50,000.00
Legal/ Debt Authorization	N/A
Financial Advisor	N/A
Land/ System Acquisition	N/A
Equipment/ Materials	N/A
Smith Well	\$40,000.00
Vance Well	\$30,000.00
Neely West Well	\$40,000.00
Neely North Well	\$30,000.00
Rancho Mirage Well	\$35,000.00
Glennwilde Well	\$30,000.00
Rancho Mirage WDC	\$50,000.00
Rancho El Dorado WDC	\$50,000.00
Meadows WDC	\$35,000.00
Groves WDC	\$35,000.00
Global Water Center	\$75,000.00
Construction/ Installation/ Improvement	
Smith Well	\$40,000.00
Vance Well	\$30,000.00
Neely West Well	\$40,000.00
Neely North Well	\$30,000.00
Rancho Mirage Well	\$35,000.00
Glennwilde Well	\$30,000.00
Rancho Mirage WDC	\$50,000.00
Rancho El Dorado WDC	\$10,000.00
Meadows WDC	\$35,000.00
Groves WDC	\$35,000.00
Global Water Center	\$65,000.00
Inspection & Construction Management	
Construction Inspection	\$150,000.00
Project Officer	
Site Project Manager	\$20,000.00
Administration	
Administration	\$5,000.00
Staff Training	N/A
Capitalized Interest	N/A
Other	N/A
Total for Project	\$1,200,000.00

Santa Cruz Water Company DW 170-2009 Solar Project Cost Estimate with Breakdowns	
Uses by Budget Item	WIFA Funding
Planning	
Research and Development	\$15,000.00
Design & Engineering	
CRA, PO 20209001(001)	\$6,915.62
Project Design & Engineering	\$63,084.38
Legal/ Debt Authorization	N/A
Financial Advisor	N/A
Land/ System Acquisition	N/A
Equipment/ Materials	N/A
First Solar, Solar Panels	\$1,050,000.00
Schletter, Support Structures	\$309,034.88
Electrical Materials	\$440,965.12
Construction/ Installation/ Improvement	
Land Survey, PO 20209001(005)	\$5,000.00
Electrical	\$171,339.38
Installation (Local Operations)	\$173,660.62
Inspection & Construction Management	
Construction Inspection	\$175,000.00
Project Officer	
Site Project Manager	\$75,000.00
Administration	
Administration	\$15,000.00
Staff Training	N/A
Capitalized Interest	N/A
Other	N/A
Total for Project	\$2,500,000.00

ATTACHMENT G – SOLAR PROJECT COST ESTIMATE

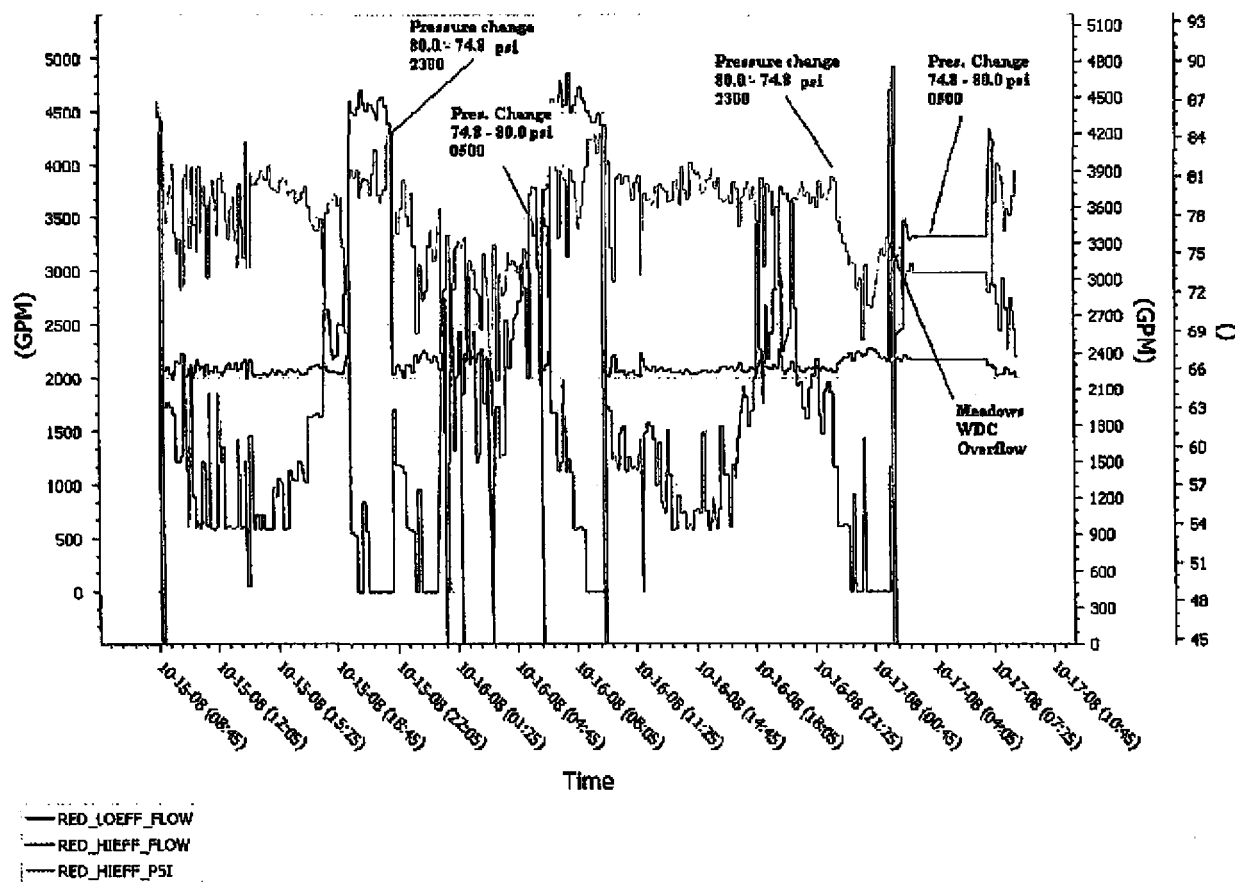
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Economies and Efficiencies Generated through SCADA

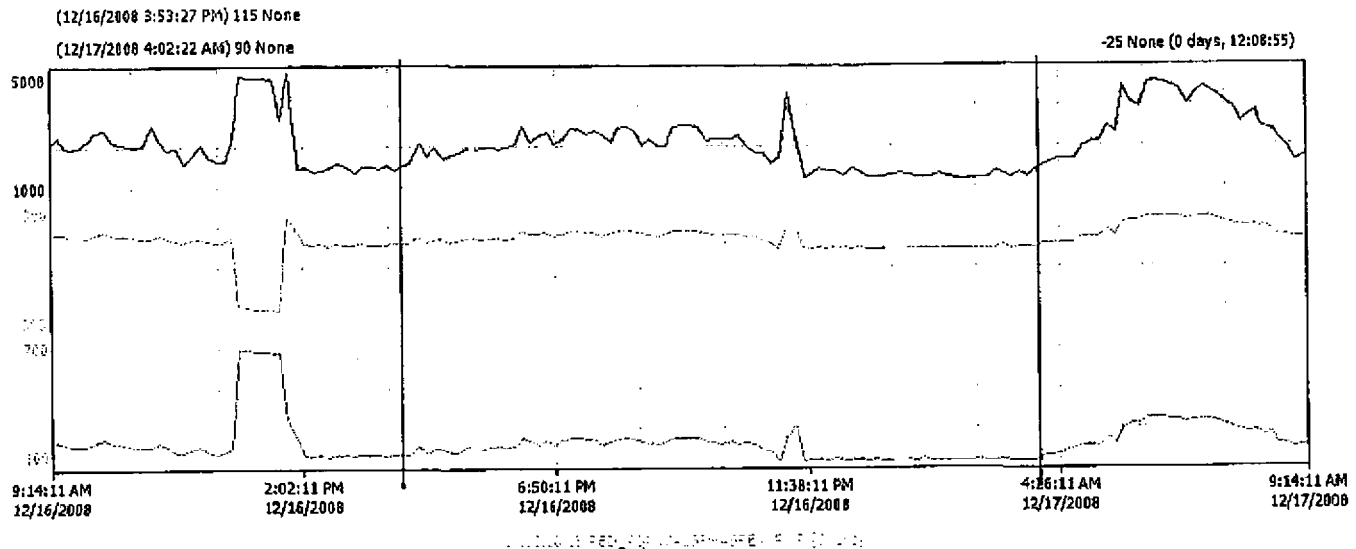
Cost Savings Summary

2008 - 2009

- Advanced Pressure Management Plan (APM)** – This project utilizes SCADA control to minimize the pressure in the water distribution system during off-peak hours. The benefit of this program is two-fold, reducing energy requirements to maintain water pressure during low use, as well as reducing lost water due to un-metered leakage in the distribution system. Currently, a pilot study is underway which lowers the distribution system pressure by nearly 6-psi for up to six hours per day (11 pm to 5 am daily). Once the performance is documented, pressure may be reduce as much as 15 psi during off-peak hours, which may lead to savings of 1/8 the current power will or \$1,300/month.



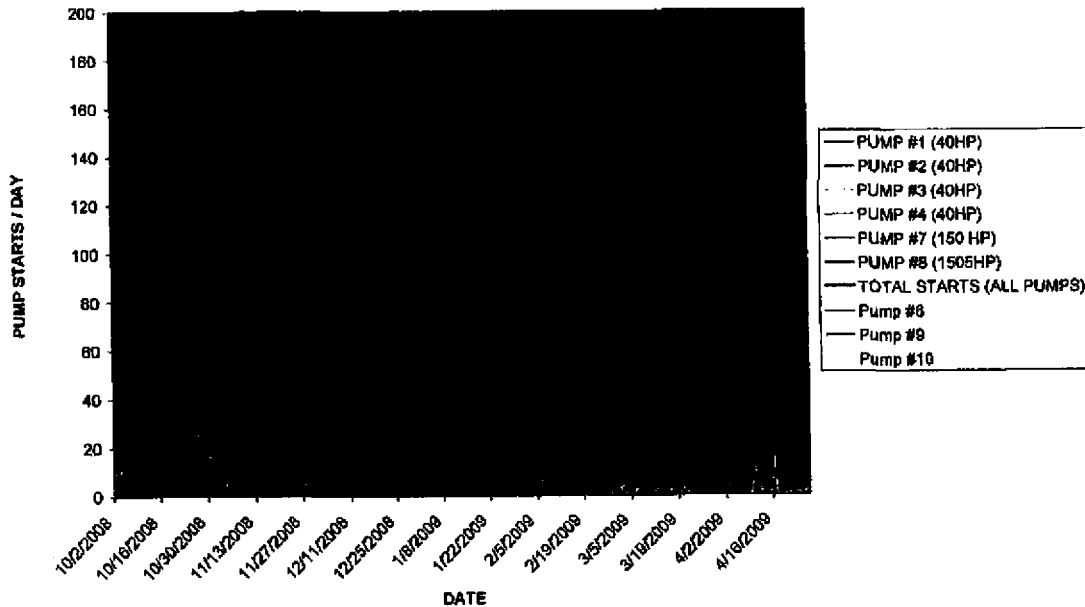
- Advanced Pressure Management Program (APM)** – The APM program has been ongoing since October of 2008. This program utilizes pressure drops during off-peak hours (11pm – 5am) to reduce energy consumption while reducing lost and unaccounted for water in the distribution system through reduced leakage. The first phase of this test is to monitor the power savings related to lowering the pressure 5.2 psi which correlates to operating the reservoir levels above ½ full. The graph below documents the flow (gpm), power (kilowatts (KW)) and current (amps) of operating during AMP (11pm – 5am). The graph clearly shows a 25 KW reduction at identical flow rates at reduced pressure. This equates to a savings of nearly \$5,000/yr in power savings. However, considerations to reduce the pressure an additional 5 – 10 psi could increase the savings as much as \$15,000 per year, not to mention the savings in lost water revenues.



Flow vs. Power at identical flow rates with and without APM active.

- **RED WDC - Pump Control Improvements** – In addition to the APM program as mentioned above, The RED WDC has undergone pump control improvements which has reduced simultaneous equipment starts as well as reduced pressure fluctuations, reducing power usage (KWH), KW demand charges as well as equipment wear.

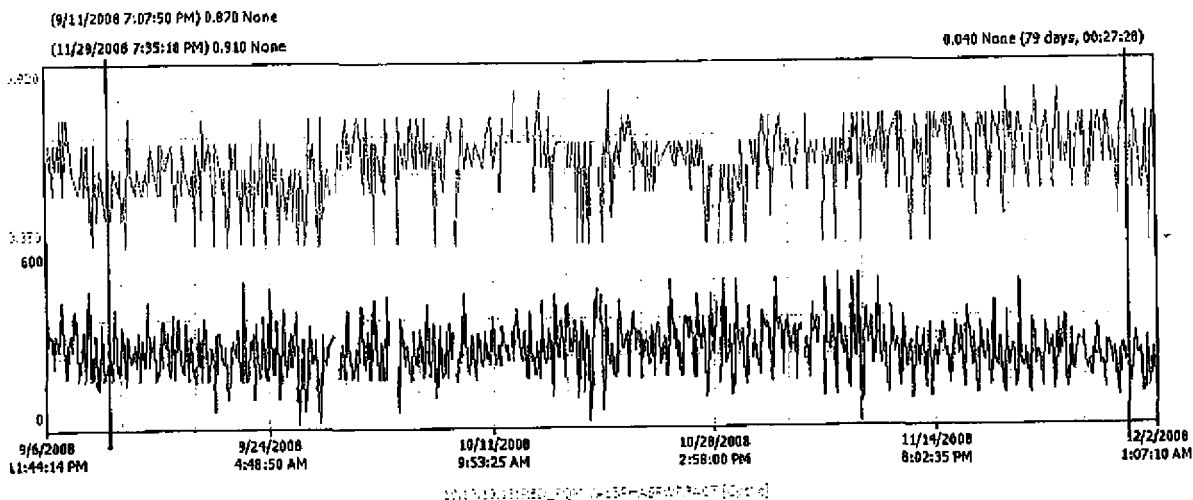
**RED WDC
PUMP STARTS
10/2/08 - 04/26/09**



RED WDC total number of pump starts per day 10/08 – 03/31

The Graph above notes the total number of pump starts per day, which has declined significantly from an average of nearly 100 starts per day to just 13 starts per day, equating to a 76% reduction in pump starts.

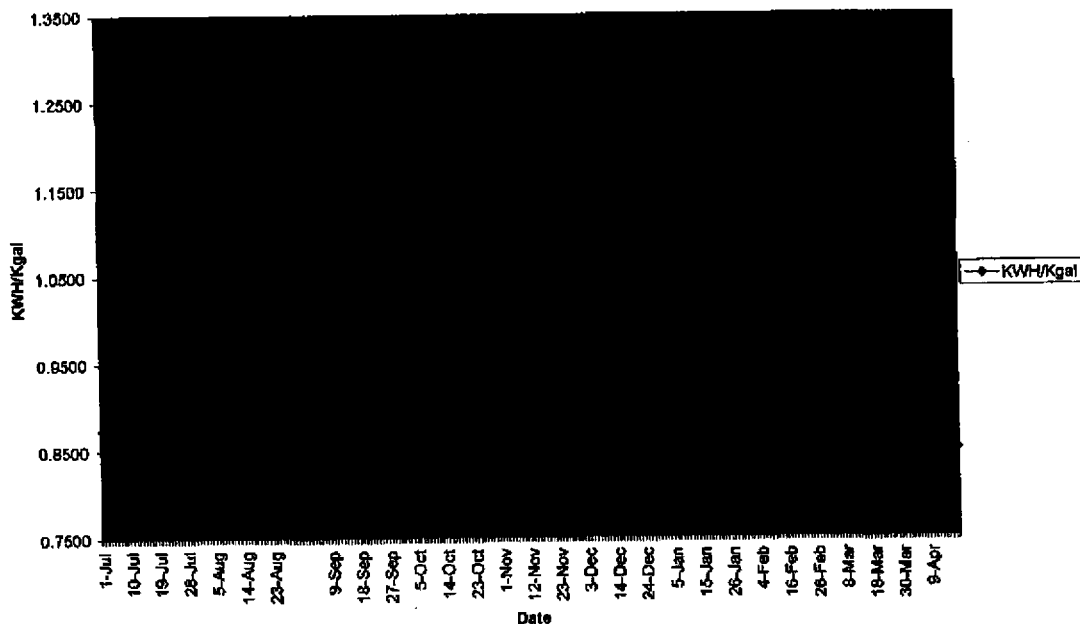
In addition, the average power factor has noticeably increased in relation to the reduced pump starts.



RED WDC Power Factor (top) and Amp Draw (bottom) 09/08 – 11/08

This has led to a total power reduction of over 11% reducing power from 0.9024 KWH/Kgal produced in December 2008 to 0.8016 KWH/Kgal produced in April of 2009.

RED WDC - KWH/KGAL 07/08 - 04/21/09



RED WDC Power Usage KWH/Kgal July 2008 – March 2009

- **Groves/Meadows WDC Pump and fill Optimization.** - Currently, these two water distribution sites are filled during off-peak hours and utilized to improve system pressure during high demand periods. However, demand requirements are reduced during winter months of operation. As well, during the pump and fill cycles, staff noted that water was actually being pumped twice during this operation. Modifying the daily pump and fill routine to once per week, can save as much as 9,600 KWH / month or an estimated \$900 per month.
- **Glennwilde / Vance Well Improvements** – These two pumping assets represent the highest well operating cost of the well pumping facilities. Improvements would require depth specific sampling and sonar logging to determine where well screen improvements can be made to improve water flow and reduce power usage costs. Although costs savings are unknown at this time, reducing energy costs comparable to other well pumping assets would reduce power costs by as much as 30%
- **RED WDC Chlorination pump control Improvements** – The RED WDC produces and average of 100 million gallons of potable water per month, requiring approximately. This facility represents the highest chemical consumption of all Global water production sites, averaging approximately 30,000 gallons of sodium hypochlorite per year. Process control issue identified an increased demand of disinfectant from inaccurate chemical dosing. By modifying the process control code and calibrating the chemical feed output. Chemical residuals are maintained while reducing chemical feed pump operation by nearly ½. These modifications have significantly improved chlorine residual control while reducing energy usage, requiring less pumping time and reducing chemical requirements by as much as 3,000 gallons of chemical per year, a 10% cost savings.